# WFIRST SDT
# High Latitude Survey (HLS) Task Group

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# Our Charge

- Reference observing program with JDEM-OMEGA design
- WL, BAO/RSD, NIR science
- 2 years of mission
- Justify using DETF FOM, growth FOM and, NIR-science FOMs
- Suggest cost neutral changes to JDEM OMEGA that enhance science

# Four Sub-Groups

- Weak Lensing
- BAO/RSD
- Dark Energy/Gravity Constraints
- NIR science (with help from Stern and Schechter)

# Plan going forward

- Each sub group will present today
- Some optimizations remain to be done
- Photo-zs not yet fully considered
- Integration of all results and decision on final survey strategy recommendation pending

# Caveats

- Off axis telescope design produces **substantial gains**
  - Comparison of on/off axis designs given in sub-groups
  - DETF FOMs as shown use off-axis design, but FOMs exist for both
- We present just two survey options, called Deep and Wide
  - Deep does WL/BAO @ ~3000 square deg per yr
  - Wide does BAO/RSD @ ~10,000 square deg per yr
- Only consider splits of 1 yr Wide/1 Year Deep and 2 years Deep; for June report we may deviate from this
- Have developed the ***tools*** to trade off all science and hardware options, but full trade-offs remain to be done
- **The Astro2010 recommendations for number of shapes and spectra are not close to being compatible with a 2 year survey; these remain goals**

- Difficult to compare 2 years of WFIRST to 5 years of Euclid or 10 years of LSST; we also want to consider the ***capability*** of WFIRST in the case of an extended mission
- DE FOMs don't tell the whole story about WFIRST's DE capabilities; higher-z constraints come from WFIRST but are not shown in the current FOMs